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Active faulting along the Himalayan front in Punjab, India

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This research aims to clear natural environmental factor for drastic declining of Indus civilization around 4000 yrs ago by tectonic geomorphological and paleoseisomological survey. The survey area is the Himalayan front in Punjab, northwest India, where the historical mega earthquakes over M8 has recorded along the Himalayan front, and also many remains of the Indus civilization close to the Himalayan front are known. It is possible that those ancient cities suffered from the earthquake hazard in those days. However because no research work in this area related to tectonic geomorphological and paleoseisomological survey except Malik and Mohanty (2007) has done, location of trace of that active fault or characteristics of the fault generating mega earthquake is unclear. In this research I use the CORONA satellite photographs for identification of tectonic landform.
My photo-identification and fieldwork prevails that tectonic landforms develop along the both margin of the foot of the Siwalik hills in Himalayan front. Along the western margin of the hills, west-facing flexture scarps and fault scarps are observed at many places. At Bhtpur two terraces with different height in dissected valley in the hills are cut by faulting. Along the eastern margin of the hills I observe a series of east-facing flexture scarp. At Bathri 1.5m height scarps are emerged on the floodplain. It implies that this deformation has occurred very recently. The vertical movement of two fault systems on the both margin of the hill has led to uplift paleo-Indus Plain on the Siwalik hills 300 m above the plain in this area.
Because precise location of fault trace is known by the fieldwork, I plan to dig a trench across the fault trace in order to clear history of faulting.

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